

Class `ActionEvent`

```
java.lang.Object
├── java.util.EventObject
│   └── java.awt.AWTEvent
│       └── java.awt.event.ActionEvent
```

Constructor Summary

<code>ActionEvent(Object source, int id, String command)</code>	Constructs an <code>ActionEvent</code> object.
<code>ActionEvent(Object source, int id, String command, int modifiers)</code>	Constructs an <code>ActionEvent</code> object with modifier keys.
<code>ActionEvent(Object source, int id, String command, long when, int modifiers)</code>	Constructs an <code>ActionEvent</code> object with the specified modifier keys and timestamp.

Method Summary

<code>String</code>	<code>getActionCommand()</code> Returns the command string associated with this action.
<code>int</code>	<code>getModifiers()</code> Returns the modifier keys held down during this action event.
<code>long</code>	<code>getWhen()</code> Returns the timestamp of when this event occurred.
<code>String</code>	<code> paramString()</code> Returns a parameter string identifying this action event.

Methods inherited from class `java.awt.AWTEvent`

`consume`, `getID`, `isConsumed`, `setSource`, `toString`

Methods inherited from class `java.util.EventObject`

`getSource`

`java.awt.event`

Interface `ActionListener`

Method Summary

<code>void</code>	<code>actionPerformed(ActionEvent e)</code> Invoked when an action occurs.
-------------------	---

Class `Coordinate`

```
java.lang.Object
└── Coordinate
```

```
public class Coordinate
extends Object
```

The `Coordinate` class represents a two-dimensional point with integer coordinates. It is used by the `Board` class to represent the row and column of a mouse click on a two-dimensional board instance.

Constructor Summary

<code>Coordinate(int theRow, int theCol)</code>	Generates a two-dimensional coordinate
---	--

Method Summary

<code>int</code>	<code>getCol()</code> Returns the coordinate's column value
<code>int</code>	<code>getRow()</code> Returns the coordinate's row value

javax.swing

Class JFrame

```

java.lang.Object
├── java.awt.Component
│   ├── java.awt.Container
│   │   ├── java.awt.Window
│   │   │   └── java.awt.Frame
│   │   │       └── javax.swing.JFrame

```

Constructor Summary

JFrame()	Constructs a new frame that is initially invisible.
JFrame(GraphicsConfiguration gc)	Creates a Frame in the specified GraphicsConfiguration of a screen device and a blank title.
JFrame(String title)	Creates a new, initially invisible Frame with the specified title.
JFrame(String title, GraphicsConfiguration gc)	Creates a JFrame with the specified title and the specified GraphicsConfiguration of a screen device.

Method Summary

protected void	addImpl(Component comp, Object constraints, int index) Adds the specified child Component.
protected JRootPane	createRootPane() Called by the constructor methods to create the default rootPane.
protected void	frameInit() Called by the constructors to init the JFrame properly.
AccessibleContext	getAccessibleContext() Gets the AccessibleContext associated with this JFrame.
Container	getContentPane() Returns the contentPane object for this frame.
int	getDefaultCloseOperation() Returns the operation that occurs when the user initiates a "close" on this frame.
Component	getGlassPane() Returns the glassPane object for this frame.
Graphics	getGraphics() Creates a graphics context for this component.
JMenuBar	getJMenuBar() Returns the menubar set on this frame.
JLayeredPane	getLayeredPane() Returns the layeredPane object for this frame.
JRootPane	getRootPane() Returns the rootPane object for this frame.
void	remove(Component comp) Removes the specified component from the container.
void	repaint(long time, int x, int y, int width, int height) Repaints the specified rectangle of this component within time milliseconds.
void	setContentPane(Container contentPane) Sets the contentPane property.
void	setDefaultCloseOperation(int operation) Sets the operation that will happen by default when the user initiates a "close" on this frame.
static void	setDefaultLookAndFeelDecorated(boolean defaultLookAndFeelDecorated) Provides a hint as to whether or not newly created JFrames should have their Window decorations (such as borders, widgets to close the window, title...) provided by the current look and feel.
void	setGlassPane(Component glassPane) Sets the glassPane property.
void	setIconImage(Image image) Sets the image to be displayed as the icon for this window.

void	setJMenuBar(JMenuBar menubar) Sets the menubar for this frame.
void	setLayeredPane(JLayeredPane layeredPane) Sets the layeredPane property.
void	setLayout(LayoutManager manager) Sets the LayoutManager.
protected void	setRootPane(JRootPane root) Sets the rootPane property.
protected void	setRootPaneCheckingEnabled(boolean enabled) Sets whether calls to add and setLayout are forwarded to the contentPane.
void	setTransferHandler(TransferHandler newHandler) Sets the transferHandler property, which is a mechanism to support transfer of data into this component.
void	update(Graphics g) Just calls paint(g).

javax.swing

Class JPanel

```

java.lang.Object
├ java.awt.Component
│   └ java.awt.Container
│       └ javax.swing.JComponent
│           └ javax.swing.JPanel

```

Constructor Summary

JPanel()	Creates a new JPanel with a double buffer and a flow layout.
JPanel(boolean isDoubleBuffered)	Creates a new JPanel with FlowLayout and the specified buffering strategy.
JPanel(LayoutManager layout)	Create a new buffered JPanel with the specified layout manager
JPanel(LayoutManager layout, boolean isDoubleBuffered)	Creates a new JPanel with the specified layout manager and buffering strategy.

Method Summary

AccessibleContext	getAccessibleContext() Gets the AccessibleContext associated with this JPanel.
PanelUI	getUI() Returns the look and feel (L&F) object that renders this component.
String	getUIClassID() Returns a string that specifies the name of the L&F class that renders this component.
protected String	 paramString() Returns a string representation of this JPanel.
void	setUI(PanelUI ui) Sets the look and feel (L&F) object that renders this component.
void	updateUI() Resets the UI property with a value from the current look and feel.

Methods inherited from class [javax.swing.JComponent](#)

[addAncestorListener](#), [addNotify](#), [addVetoableChangeListener](#), [computeVisibleRect](#), [contains](#), [createToolTip](#), [disable](#), [enable](#), [firePropertyChange](#), [firePropertyChange](#), [firePropertyChange](#), [fireVetoableChange](#), [getActionForKeyStroke](#), [getActionMap](#), [getAlignmentX](#), [getAlignmentY](#), [getAncestorListeners](#), [getAutoscrolls](#), [getBaseline](#), [getBaselineResizeBehavior](#), [getBorder](#), [getBounds](#), [getClientProperty](#), [getComponentGraphics](#), [getComponentPopupMenu](#), [getConditionForKeyStroke](#), [getDebugGraphicsOptions](#), [getDefaultLocale](#), [getFontMetrics](#), [getGraphics](#), [getHeight](#), [getInheritsPopupMenu](#), [getInputMap](#), [getInputMap](#), [getInputVerifier](#), [getInsets](#), [getInsets](#), [getListeners](#), [getLocation](#), [getMaximumSize](#), [getMinimumSize](#), [getNextFocusableComponent](#), [getPopupLocation](#), [getPreferredSize](#), [getRegisteredKeyStrokes](#), [getRootPane](#), [getSize](#), [getToolTipLocation](#), [getToolTipText](#), [getToolTipText](#), [getTopLevelAncestor](#), [getTransferHandler](#), [getVerifyInputWhenFocusTarget](#), [getVetoableChangeListeners](#), [getVisibleRect](#), [getWidth](#), [getX](#), [getY](#), [grabFocus](#), [isDoubleBuffered](#), [isLightweightComponent](#), [isManagingFocus](#), [isOpaque](#), [isOptimizedDrawingEnabled](#), [isPaintingForPrint](#), [isPaintingTile](#), [isRequestFocusEnabled](#), [isValidateRoot](#), [paint](#), [paintBorder](#), [paintChildren](#), [paintComponent](#), [paintImmediately](#), [paintImmediately](#), [print](#), [printAll](#), [printBorder](#), [printChildren](#), [printComponent](#), [processComponentKeyEvent](#), [processKeyBinding](#), [processKeyEvent](#), [processMouseEvent](#), [putClientProperty](#), [registerKeyboardAction](#), [registerKeyboardAction](#), [removeAncestorListener](#), [removeNotify](#), [removeVetoableChangeListener](#), [repaint](#), [repaint](#), [requestDefaultFocus](#), [requestFocus](#), [requestFocus](#), [requestFocusInWindow](#), [requestFocusInWindow](#), [resetKeyboardActions](#), [reshape](#), [revalidate](#), [scrollRectToVisible](#), [setActionMap](#), [setAlignmentX](#), [setAlignmentY](#), [setAutoscrolls](#), [setBackground](#), [setBorder](#), [setComponentPopupMenu](#), [setDebugGraphicsOptions](#), [setDefaultLocale](#), [setDoubleBuffered](#), [setEnabled](#), [setFocusTraversalKeys](#), [setFont](#), [setForeground](#), [setInheritsPopupMenu](#), [setInputMap](#), [setInputVerifier](#), [setMaximumSize](#), [setMinimumSize](#), [setNextFocusableComponent](#), [setOpaque](#), [setPreferredSize](#), [setRequestFocusEnabled](#), [setToolTipText](#), [setTransferHandler](#), [setUI](#), [setVerifyInputWhenFocusTarget](#), [setVisible](#), [unregisterKeyboardAction](#), [update](#)

Methods inherited from class [java.awt.Container](#)

[add](#), [add](#), [add](#), [add](#), [add](#), [addContainerListener](#), [addImpl](#), [addPropertyChangeListener](#), [addPropertyChangeListener](#), [applyComponentOrientation](#), [areFocusTraversalKeysSet](#), [countComponents](#), [deliverEvent](#), [doLayout](#), [findComponentAt](#), [findComponentAt](#), [getComponent](#), [getComponentAt](#), [getComponentAt](#), [getComponentCount](#), [getComponents](#), [getComponentZOrder](#), [getContainerListeners](#), [getFocusTraversalKeys](#), [getFocusTraversalPolicy](#), [getLayout](#), [getMousePosition](#), [insets](#), [invalidate](#), [isAncestorOf](#), [isFocusCycleRoot](#), [isFocusCycleRoot](#), [isFocusTraversalPolicyProvider](#), [isFocusTraversalPolicySet](#), [layout](#), [list](#), [list](#), [locate](#), [minimumSize](#), [paintComponents](#), [preferredSize](#), [printComponents](#), [processContainerEvent](#), [processEvent](#), [remove](#), [remove](#), [removeAll](#), [removeContainerListener](#), [setComponentZOrder](#), [setFocusCycleRoot](#), [setFocusTraversalPolicy](#), [setFocusTraversalPolicyProvider](#), [setLayout](#), [transferFocusBackward](#), [transferFocusDownCycle](#), [validate](#), [validateTree](#)

Methods inherited from class [java.awt.Component](#)

[action](#), [add](#), [addComponentListener](#), [addFocusListener](#), [addHierarchyBoundsListener](#), [addHierarchyListener](#), [addInputMethodListener](#), [addKeyListener](#), [addMouseListener](#), [addMouseMotionListener](#), [addMouseWheelListener](#), [bounds](#), [checkImage](#), [checkImage](#), [coalesceEvents](#), [contains](#), [createImage](#), [createImage](#), [createVolatileImage](#), [createVolatileImage](#), [disableEvents](#), [dispatchEvent](#), [enable](#), [enableEvents](#), [enableInputMethods](#), [firePropertyChange](#), [firePropertyChange](#), [firePropertyChange](#), [firePropertyChange](#), [getBackground](#), [getBounds](#), [getColorModel](#), [getComponentListeners](#), [getComponentOrientation](#), [getCursor](#), [getDropTarget](#), [getFocusCycleRootAncestor](#), [getFocusListeners](#), [getFocusTraversalKeysEnabled](#), [getFont](#), [getForeground](#), [getGraphicsConfiguration](#), [getHierarchyBoundsListeners](#), [getHierarchyListeners](#), [getIgnoreRepaint](#), [getInputContext](#), [getInputMethodListeners](#), [getInputMethodRequests](#), [getKeyListeners](#), [getLocale](#), [getLocation](#), [getLocationOnScreen](#), [getMouseListeners](#), [getMouseMotionListeners](#), [getMousePosition](#), [getMouseWheelListeners](#), [getName](#), [getParent](#), [getPeer](#), [getPropertyChangeListeners](#), [getPropertyChangeListeners](#), [getSize](#), [getToolkit](#), [getTreeLock](#), [gotFocus](#), [handleEvent](#), [hasFocus](#), [hide](#), [imageUpdate](#), [inside](#), [isBackgroundSet](#), [isCursorSet](#), [isDisplayable](#), [isEnabled](#), [isFocusable](#), [isFocusOwner](#), [isFocusTraversable](#), [isFontSet](#), [isForegroundSet](#), [isLightweight](#), [isMaximumSizeSet](#), [isMinimumSizeSet](#), [isPreferredSizeSet](#), [isShowing](#), [isValid](#), [isVisible](#), [keyDown](#), [keyUp](#), [list](#), [list](#), [list](#), [location](#), [lostFocus](#), [mouseDown](#), [mouseDrag](#), [mouseEnter](#), [mouseExit](#), [mouseMove](#), [mouseUp](#), [move](#), [nextFocus](#), [paintAll](#), [postEvent](#), [prepareImage](#), [prepareImage](#), [processComponentEvent](#), [processFocusEvent](#), [processHierarchyBoundsEvent](#), [processHierarchyEvent](#), [processInputMethodEvent](#), [processMouseWheelEvent](#), [remove](#), [removeComponentListener](#), [removeFocusListener](#), [removeHierarchyBoundsListener](#), [removeHierarchyListener](#), [removeInputMethodListener](#), [removeKeyListener](#), [removeMouseListener](#), [removeMouseMotionListener](#), [removeMouseWheelListener](#), [removePropertyChangeListener](#), [removePropertyChangeListener](#), [repaint](#), [repaint](#), [repaint](#), [resize](#), [resize](#), [setBounds](#), [setBounds](#), [setComponentOrientation](#), [setCursor](#), [setDropTarget](#), [setFocusable](#), [setFocusTraversalKeysEnabled](#), [setIgnoreRepaint](#), [setLocale](#), [setLocation](#), [setName](#), [setSize](#), [setSize](#), [show](#), [show](#), [size](#), [toString](#), [transferFocus](#), [transferFocusUpCycle](#)